



# Tips and Tricks

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# A Pixel's Worth A Thousand Words

Many high-end commercial photographers are starting to integrate the various elements of digital workflow into their production process. But when it comes to going totally digital, the main concern is how to retain the quality traditionally achieved by film, drum-scans, and high-end custom prints when using today's digital technologies.

One major obstacle in digital imaging is the pixel. A digital image is nothing more than a matrix of pixels, and when these pixels are enlarged too much they fall apart. An obvious solution is to eliminate pixels from your image files.

Altamira has developed the software that allows you to do just that. Genuine Fractals, a plug-in used with Adobe Photoshop and compatibles, lets you to scale up (enlarge) or scale down (reduce) files using advanced proprietary Fractal and Wavelet technology.

Many photographers are concerned about the transition to digital because they assume they need to work with high-res files in the 100- to 300MB range. But several high-end digital cameras provide an 18-30MB file, which, when combined with Genuine Fractals, yield the same high-quality results usually associated with traditional film photography methods.

## REPLACING PIXELS IS A PLUS

Altamira's Genuine Fractals, which replaces pixel-based images with more compact mathematically expressed descriptions, is an integral part of the digital imaging workflow. When an image is encoded

into the Genuine Fractals (.STN) format, it throws away the pixels and replaces them with a mathematical representation of the image. At this point, the image acts in a similar manner to a vector file, which is essentially resolution-independent. When you open your .STN image in Photoshop, it puts up a fractal grid and then re-renders the pixels back into the image on the grid.

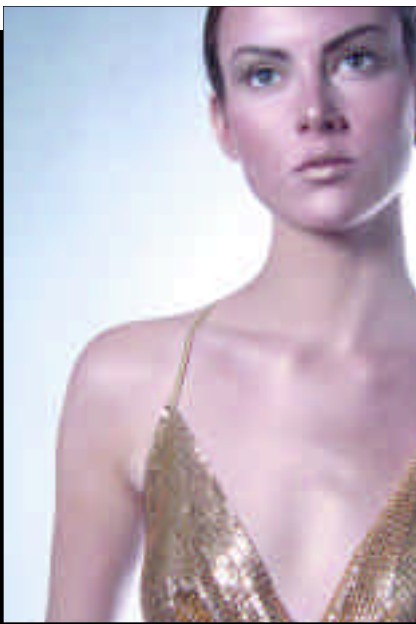
## LOSSLESS A WINNER

Genuine Fractals offers a Lossless Compression option of from 2:1 to 4:1, depending on the complexity of the image, which is truly lossless. To test this, subtract your .STN image from your TIFF image (this only works at 100%) and you are left with a new document that is completely black. Every pixel maps exactly the same, because even at 2:1 compression, it is completely lossless.

Once you've rid your image of pixels, you have a very flexible image. Now you can change the resolution of your image and work in pixels, inches, percentages, centimeters, etc., and change the number of pixels per inch on the fly.

## THE NEW GEOMETRY

When you create an image within a Photoshop document, it produces new pixels, and is essentially the same as sending your document to a RIP (Raster Image Processor) device. With Genuine Fractals, you are RIPing your image to a fractal grid so you're not bound by the horizontal and vertical. Why? Fractal geometry is not made up of straight lines, but describes natural shapes, renders the pixels back,



*"I like Genuine Fractals because I can take a picture with a 3.1-megapixel camera and make an 11x17-inch print with nice quality. The product is easy to use—you don't really even need to read the manual—and it works within Photoshop, an environment photographers already know. I also like that there is no degradation of quality, no color shifts, no distortion of pixels. I recently took a 9MB file from a Kodak 4800 and blew it up 400 percent. When I zoomed into the details—especially the model's eyes and the fur of her coat—they had the same quality as the original."*

—HELENE DELILLO,  
digital imaging artist & photographer,  
Dancing Icon Inc.

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through the grid, and scatters them rather than arranging them in an even, predictable pattern.

Once you've saved an image into an .STN file—that's it. You need only create an .STN file once. No more creating multiple files with varying sizes and resolutions. Work

and 14:1, which saves a tremendous amount of disk space, since the 80 percent of the data that is removed is below what we have the ability to see. When an image is scaled, then saved as Visually Lossless, the savings are even greater—10:1 to 80:1, or more.

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#### NEW AND IMPROVED

Today good, efficient digital workflow is achievable. Take an 18MB file, work on it, save it as an .STN file, and scale up for output, down for storage and transmission. You don't have to deal with the huge, bulky file that you get with a drum scan, so you can streamline your workflow. You now have an agile image asset you can reconfigure for a variety of needs, always with the sharpness and detail of the original.

In a nutshell, Genuine Fractals streamlines your workflow by creating a format-independent digital master, guaranteeing original image quality, reducing limitations of pixel format, allowing on-demand reconfiguring and scaling to virtually any size and resolution, creating agile assets for editing and transportation, and saving time and money. ❖

For more information about Altamira and its products, visit [www.altamira-group.com](http://www.altamira-group.com).



*"I'm currently using Genuine Fractals primarily for its compression capabilities. I'm working on the cover comps for my book, Natural Beauty/Farber Nudes, with Merrell Publishing, located in the U.K. With Genuine Fractals I can compress my images, email them easily, and my publisher is able to make top-quality prints."*

—ROBERT FARBER,  
photographer, lecturer, founder,  
[www.photoworkshop.com](http://www.photoworkshop.com)

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on a medium-size format for editing and color correcting, re-size to a smaller file for storage or transmission, or enlarge the file for output. Genuine Fractals software also gives you the option of selecting an area of interest and scaling and outputting that area only.

Genuine Fractals is the most accurate way to enlarge a picture because it preserves image detail, color space, ICC color profiles, alpha channels, and vectors. You can maintain the quality of the information that is already imbedded in the image, even as you scale up for enlargements and down for editing and storage.

You also have the option of choosing Visually Lossless for compression. With this option, you discard a lot of data, and only save what is visually perceptible. Your compression ranges between 5:1

tal because they assume they need to work with very high-resolution files in the 100- to 300MB range. However, several high-end digital cameras provide an 18-30MB file, which, when combined with

*"Genuine Fractals provides me with a comfort factor. I shoot with Nikon digital cameras and then use Genuine Fractals. As a sports photographer I have to shoot under the worst conditions. GF makes me feel like I can crop at will and not have to worry."*

—MICHAEL CORRADO,  
Manager, Technical Services & Training,  
Nikon Inc.

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